

REMARKS

This is intended as a full and complete response to the Final Office Action dated September 22, 2005, having a shortened statutory period for response set to expire on December 22, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 39-59, 61, 62 and 67-76 remain pending in the application and are shown above. Claims 70 stands withdrawn by the Examiner and claims 39-59, 61, 62 and 67-76 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 39, 42, 43, 46, 47, 50, 53, 56-59, 61, 62, 67, 69, 71, and 74-76 are amended to correct matters of form and to clarify the invention. No new matter has been added. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference.

Claim 70

Although the Examiner has disregarded claim 70 in the instant Office action, Applicant requests that a final determination be rendered. In the response dated June 27, 2005, Applicant has amended claim 70 to depend from claim 39. The claim, as amended, does not read on the non elected invention. Applicant respectfully requests withdrawal of the restriction, and reinstatement of claim 70.

Rejections over *Breivogel, et al.*

Claims 39-43, 45-50, 52-59, 61, 62, 67-69 and 71-76 are rejected under 35 U.S.C. §102(b) as being anticipated by *Breivogel, et al.* (U.S. Patent No.5,554,064). As submitted in the previous response, Applicant respectfully traverses the rejection on grounds that *Breivogel, et al.* does not teach or provide motivation for the invention as claimed.

In the Office action dated March 24, 2005, the Examiner submits that *Breivogel, et al.* teaches all the limitations of the claims at issue. Applicant has traversed that submission in that *Breivogel, et al.* does not teach, suggest, or provide motivation for

any electrically active portion of the pad. In response to Applicant's arguments presented in the response filed June 27, 2005, the Examiner makes a broad statement that "...polishing articles may be conductive.", but does not cite a particular statement or suggestion in *Breivogel, et al.* that supports the assertion. Immediately following that statement, the Examiner goes further in asserting that, "However, the slurry/water contained in the grooves are conductive and therefore will transport electricity across the pad."

Applicant submits that the rejection is not clear and respectfully requests the Examiner provide a clarification of the rejection. Applicant would also like to clarify the Examiner's recollection of Applicant's argument. Applicant based the argument filed June 27, 2005 on a slurry/pad/**wafer** interface, not slurry/pad/**water**, as recited by the Examiner in the instant Office action. Further, the instant Office action is the first mention of a conductive slurry and Applicant submits that the slurry of *Breivogel, et al.* is not taught or suggested as conductive.

Conversely, the reference *Breivogel, et al.* relates to a conventional chemical mechanical polishing apparatus, disclosing pad materials (Col. 4, Lines 51-56 and Col. 7, Lines 2-3) that are not taught or suggested to be electrically conductive. The sole mention of a material that may be electrically conductive is a stainless steel polishing diaphragm [606]. The diaphragm [606] is not taught or suggested adjacent the pad [602] or either pad surface-the diaphragm [606] being separated from the pad [602] by a backing [604]. Further, *Breivogel, et al.* does not teach or suggest application of an electrical current to the diaphragm [606].

Applicant submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a center portion and a perimeter portion, a polishing surface defined on the center portion having a plurality of perforations formed in at least a portion of the center portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein the center portion of the polishing article includes a conductive material, as recited in claim 39. Withdrawal of the rejection to claim 39, and claims dependent thereon, is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a polishing surface, a plurality of perforations

formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein the polishing surface comprises a conductive material or a dielectric material having conductive elements disposed therein and is adapted to conduct electricity across the polishing surface, as recited in claim 47. Withdrawal of the rejection to claim 47, and claims dependent thereon, is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a conductive polishing surface that provides a conductive path over at least a portion of the polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein each of the perforations has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another, as recited in claim 56. Withdrawal of the rejection to claim 56 is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a conductive polishing surface that provides a conductive path over at least a portion of the polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein the polishing article is disposed on a perforated sub-pad, as recited in claim 57. Withdrawal of the rejection to claim 57, and claims dependent thereon, is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a conductive polishing surface that provides a conductive path over the polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, as recited in claim 59. Withdrawal of the rejection to claim 59, and claims dependent thereon, is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a conductive polishing surface comprising a center portion and a perimeter portion, a plurality of perforations formed in at least the center portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in at least the center portion of the conductive polishing surface, and

wherein at least one of the center portion or the perimeter portion of the polishing article conducts electricity across the polishing surface, as recited in claim 71. Withdrawal of the rejection to claim 71, and claims dependent thereon, is respectfully requested.

Applicant also submits that *Breivogel, et al.* does not teach, suggest, or provide motivation for a polishing article having a perimeter portion and a center portion, a conductive polishing surface defined on the center portion, a plurality of perforations formed in the center portion of the polishing article for flow of material therethrough, wherein each of the perforations has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another; and a plurality of grooves disposed in the polishing surface, wherein a portion of the plurality of grooves are non-intersecting and are spaced between about 0.03 and about 0.3 inches apart, as recited in claim 75. Withdrawal of the rejection to claim 75, and claims dependent thereon, is respectfully requested.

Rejections over *Breivogel, et al.*, in view of *Osterheld, et al.*

Claims 44 and 51 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Breivogel, et al.*, in view of *Osterheld, et al.* (U.S. Patent No. 5,921,855). Applicant respectfully traverses the rejection on grounds that *Breivogel, et al.* and *Osterheld, et al.*, alone, or in combination, do not teach, suggest, or provide motivation for the invention as claimed.

As above, Applicant submits that *Breivogel, et al.* does not teach or suggest the limitations of claims 39 and 47, from which claims 44 and 51 depend, respectively. The reference *Osterheld, et al.* does not disclose or suggest the missing limitations of claims 39 and 47. Therefore, the combination of *Breivogel, et al.* and *Osterheld, et al.* does not teach or suggest the limitations of claims 39 and 47. Applicant submits that claims 39 and 47 are allowable and respectfully requests withdrawal of the rejection to claims 44 and 51.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Keith M. Tackett
Registration No. 32,008
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)